# EXHIBIT 8

# DECLARATION OF ARTHUR LUPIA

I, Arthur Lupia, declare as follows:

1. I am the Interim Vice President for Research and Innovation at the University of Michigan. I have held that position since April 2024. Prior to that I served as an Assistant Director of the National Science Foundation from 2018-2022 and as co-chair of the White House Office of Science and Technology Policy's Subcommittee on Open Science from 2019-2021.

2. As Vice President for Research and Innovation, I have personal knowledge of the contents of this declaration, or have knowledge of the matters based on my review of information and records gathered by the University of Michigan personnel, and could testify thereto.

3. The University of Michigan receives substantial annual funding from the Department of Energy ("DOE").

4. The funding the University of Michigan receives from DOE supports critical and cutting-edge research, which millions of Americans benefit from and depend on. For example:

   a. The University's nuclear research program, encompassing over 50 specialized researchers across four major multi-institutional projects, advances American leadership in critical nuclear technologies. This work develops next-generation fission and fusion reactors that strengthen energy independence; creates specialized detection and monitoring systems for national defense; and pioneers advanced manufacturing and artificial intelligence applications that maintain U.S. technological superiority in the global nuclear sector against growing competition from China and Russia.

   b. Michigan's nuclear security research directly supports the National Nuclear Security Administration's mission through specialized facilities that advance

nuclear non-proliferation, safeguards, and defense applications. This work combines radiation detection, plasma physics, and high-performance computing to strengthen America's nuclear deterrent capabilities and develop the specialized workforce needed to maintain U.S. strategic advantages in national defense and energy security. Through partnerships with Los Alamos National Laboratory (LANL) and Sandia National Laboratories, this research creates direct pathways for Michigan graduates to contribute to critical national security missions.

c. The University's research on advanced battery technologies, including the MUSIC Center, develops domestic energy storage solutions that reduce America's dependence on foreign supply chains. This work strengthens national security, supports American automotive manufacturing, and helps maintain U.S. technological leadership against international competitors like China, Japan, and the European Union. The application of machine learning and artificial intelligence to battery materials discovery is accelerating innovation and creating a pipeline of highly trained engineers for U.S. manufacturing.

d. Michigan's development of next-generation engine and fuel technologies includes work on dimethyl ether fuel injection systems for diesel engines, which would allow agricultural equipment to operate on locally produced fuels. This innovation expands domestic fuel options and creates new market opportunities for American farmers and manufacturers.

e. The PRISMS Center provides critical resources for designing stronger, lighter materials essential for national defense and industrial applications. With over 9,000 users of its software tools, this center develops advanced magnesium alloys that improve performance in automotive, aerospace, and defense sectors while reducing reliance on foreign materials. The center's open-source software and public data repository directly support the U.S. Materials Genome Initiative and enables AI-powered materials discovery critical to maintaining American manufacturing competitiveness.

f. The University's high-precision modeling research enhances America's strategic capabilities in the Arctic region, where Russia and China are expanding their military and economic presence. This work supports U.S. naval access, secures American interests in untapped oil and gas reserves (estimated at 13% of global undiscovered oil and 30% of natural gas), and protects critical mineral resources.

g. Michigan's research on solid-state lighting technologies advances American competitiveness in a market currently dominated by foreign manufacturers. Without continued support, innovations in energy-efficient lighting technology would likely be developed offshore, resulting in higher costs to American consumers and reduced national technological independence.

h. The University's catalysis and electrochemical systems research develops cost-effective alternatives to precious metal-based materials critical for American chemical manufacturing and energy production. This work advances low-temperature plasma technology vital to U.S. semiconductor

manufacturing and domestic supply chains, strengthening America's self-sufficiency in critical materials and reducing dependence on foreign resources.

5. Indirect costs are essential for supporting this research. The DOE's proposal to cut indirect cost rates to 15% would end or seriously jeopardize all of the research projects described in paragraph 4.

6. Indirect costs include constructing and maintaining state-of-the-art facilities required to meet the current technical requirements of advanced research, as well as the procurement and maintenance of specialized laboratory equipment necessary to conduct such research. These costs cover essential infrastructure like clean rooms, specialized testing environments, precision instrumentation, laboratory safety systems, calibration services, and technical support staff. Without these critical components, we simply cannot conduct the cutting-edge research that maintains American technological leadership and national security capabilities. Without this equipment, we cannot conduct the research.

7. For example, with respect to the areas of research described in Paragraph 4:

a. The University's nuclear technology research leverages the Michigan Ion Beam Facility, a Department of Energy Office of Nuclear Energy designated National User Facility that supports approximately 85 research projects annually across the nation. This specialized facility houses multiple ion accelerators that enable researchers to simulate nuclear reactor environments, test materials under extreme conditions, and develop radiation-resistant components essential for America's nuclear energy independence and national security infrastructure.

b. Michigan's nuclear security research relies on two complementary facilities: the Plasma, Pulsed Power, and Microwave Laboratory, which produces momentary bursts of hundreds of billions of watts to study high-power electromagnetic phenomena for defense applications; and the Michigan LINAC Laboratory, which develops specialized detection techniques for uranium, plutonium, and other materials critical to national security. Together, these facilities support major multi-institutional consortia funded by the DOE National Nuclear Security Administration to maintain America's nuclear defense capabilities.

c. The University's research on advanced battery technologies at the MUSIC Center relies on the University of Michigan Battery Lab, a state-of-the-art 10,000-square-foot facility equipped with specialized testing chambers, prototype manufacturing equipment, and precision measurement instruments. This lab enables researchers to develop and test new solid-ion conductors, fabricate battery prototypes at various scales, and analyze performance under real-world conditions, supporting critical work to maintain American leadership in energy storage technologies against global competitors.

d. The State of Michigan's development of next-generation engine and fuel technologies depends on the University of Michigan Auto Lab, which houses specialized engine test cells, fuel injection system development platforms, and combustion analysis equipment. This facility allows researchers to design, test, and optimize new fuel systems for diesel engines, measure performance metrics under various operating conditions, and develop technologies that

expand domestic fuel options for agricultural and transportation sectors, strengthening American energy independence and industrial competitiveness.

e. (For e and h). The PRISMS Center's materials research utilizes the University of Michigan Materials Characterization Center, featuring advanced metallography equipment, electron microscopes, X-ray diffraction instruments, and mechanical testing apparatus. This comprehensive facility enables the detailed analysis of magnesium alloy microstructures, properties, and performance characteristics needed to develop stronger, lighter materials for defense and industrial applications, ensuring American leadership in critical materials science and reducing dependence on foreign supply chains.

f. The University's high-precision Arctic modeling research leverages the University of Michigan Advanced Research Computing Center, which provides the massive computational power required for processing complex climate and environmental simulations. This supercomputing facility enables researchers to run the Energy Exascale Earth System Model at high resolution, analyze vast datasets from satellite observations, and generate strategic insights about Arctic resources and access, directly supporting American national security interests in this increasingly contested region.

g. Michigan's advanced solid-state lighting research relies on the University of Michigan Lurie Nanofabrication Facility, a 13,500-square-foot cleanroom complex with specialized equipment for thin-film deposition, photolithography, and device fabrication. This facility allows researchers to create prototype lighting devices, test novel materials at the nanoscale, and develop

manufacturing processes that can be scaled for commercial production, ensuring innovations in energy-efficient lighting remain domestically developed rather than ceded to international competitors.

8. Physical space costs are one of the largest components of indirect costs, and the amount of space available to researchers has a direct and obvious impact on the amount of research that can be done at the University of Michigan. Without appropriate indirect cost recovery, the immediate impacts would be severe:

a. The Michigan Ion Beam Facility, Plasma Laboratory, and LINAC Laboratory would be forced to operate at severely reduced capacity or face complete shutdown, eliminating critical national user facilities that serve dozens of research groups across the country annually.

b. The Battery Lab would be unable to maintain specialized testing equipment and environmental controls necessary for developing energy storage technologies that reduce American dependence on foreign supply chains.

c. The University's Materials Characterization Center would face limitations in supporting defense-critical materials research, directly impacting national security projects developing next-generation alloys and composites.

d. Indirect costs that support facilities maintenance and renovation are crucial to the operation of the Walter E. Lay Automotive Laboratory. This building, opened in 1957, requires regular maintenance of essential systems from freight elevators to HVAC equipment. The Auto Lab's 13 engine test stands, with complex instrumentation requiring electric power, chilled water, and compressed air, generate millions of dollars of research annually across military vehicle autonomy, batteries for electric vehicles, and engine research spanning

passenger cars to heavy-duty machinery. Without proper facilities support, temperature fluctuations would put equipment at risk and limit laboratory operability, severely impacting this defense and transportation research.

e. The Auto Lab's engine testing facilities would be unable to maintain the specialized ventilation, safety systems, and equipment calibration needed for developing American-made fuel technologies.

f. The Advanced Research Computing Center would be unable to upgrade to support the latest AI computing capabilities required by most DOE researchers on campus, leaving American researchers at a competitive disadvantage against foreign institutions.

g. The Advanced Manufacturing laboratories would face serious constraints, preventing expansion of capabilities critical to numerous DOE materials development and testing efforts that support domestic manufacturing initiatives.

h. Planned investments in quantum computing research facilities would be halted, ceding leadership in this strategically vital technology to international competitors including China.

i. The Lurie Nanofabrication Facility would be forced to reduce cleanroom operations, directly impacting research to develop American alternatives to Chinese-dominated semiconductor and electronics supply chains.

j. Specialized laboratory space required for nuclear materials handling and testing would face maintenance challenges, potentially compromising safety standards and forcing the termination of defense-critical research projects.

k. The University would be unable to properly maintain existing research facilities or construct new ones, directly reducing America's capacity to train the specialized technical workforce required for national security and energy independence initiatives.

9. In addition, indirect costs fund the administration of awards, including staff who ensure compliance with a vast number of regulatory mandates from agencies such as DOE. These mandates serve many important functions, including ensuring research integrity; properly managing and disposing of chemical and biological agents used in research; preventing financial conflicts of interest; managing funds; preventing intellectual property, technologies, or national security expertise from being inappropriately accessed by foreign adversaries; and providing the high level of cybersecurity, data storage, and computing environments mandated for regulated data. Ensuring compliance with specialized nuclear materials handling, security protocols, and safety standards, managing specialized procurement and security clearance processes for sensitive energy and defense research, maintaining facility accreditation and equipment calibration to meet DOE research quality and security standards.

10. Recovery of the University of Michigan's indirect costs is based on predetermined rates that have been contractually negotiated with the federal government.

11. Through fiscal year 2025, the University of Michigan's predetermined indirect cost rate for research is 56%.

12. The impact of a reduction in the indirect cost rate would be devastating. Of the $81.8 million in DOE funding that the University of Michigan received in Fiscal Year 2024, approximately $56.1 million was allocated for direct costs and $25.7 million for indirect costs. Similarly, in fiscal year 2025, the University of Michigan expects to receive $61.8 million in DOE

funding for direct costs, while $28.3 million is allocated for indirect costs. And over the next five years, the University of Michigan anticipates receiving an average of $75.8 million from the DOE for annual direct costs. Based on the predetermined indirect cost rate of 56%, which was agreed upon by the federal government as of July 1, 2024, the University thus expects to receive approximately $42.4 million in indirect cost recovery on an annual basis.

13. If—contrary to what the University of Michigan has negotiated with the federal government—the indirect cost rate is reduced to 15%, that would reduce the University's anticipated annual indirect cost recovery by $31.1 million, to $11.4 million.

14. The University of Michigan has for decades relied on the payment of indirect costs. And until now, we have been able to rely on the well-established process for negotiating indirect cost rates with the government to inform our budgeting and planning. Operating budgets rely on an estimate of both direct and indirect sponsored funding to plan for annual staffing needs (*e.g.*, post-docs, PhD students, and other research staff), infrastructure support (*e.g.*, IT networks, regulatory compliance, and grant management support), and facility and equipment purchases. And in some cases, the University of Michigan has long-term obligations—for example, long-term equipment maintenance contracts and service agreements, specialized technical staff positions in facilities supporting DOE research, debt service on research infrastructure investments and laboratory renovations; and it relies on budgeted grant funding, including associated indirect cost recovery, to fulfill these commitments.

15. In addition to the immediate impacts and reliance interests described above, there are longer term impacts that are both cumulative and cascading. These impacts include:

a. Talent and Educational Pipeline Disruption: The loss of specialized researchers, technical staff, and graduate students would create capability

gaps that persist for years. This disruption would break the critical pipeline of training the specialized workforce needed for defense, energy security, and technological innovation.

b. Laboratory Safety and Infrastructure Risks: Facilities like the Lurie Nanofabrication Facility, Battery Lab, and Michigan Ion Beam Laboratory require consistent maintenance and qualified personnel for safe operation. Funding disruptions would compromise crucial safety protocols for handling hazardous materials, high-voltage equipment, and radiation sources, potentially leading to accidents and regulatory shutdowns.

c. Infrastructure Deterioration: High-precision research equipment and specialized facilities would face accelerated deterioration without proper maintenance, making future restart costs prohibitively expensive and potentially rendering unique national research capabilities permanently lost.

d. Competitive Positioning and National Security Erosion: Research interruptions would create openings for international competitors (particularly China and Russia) to gain technological advantages in critical areas. This would gradually erode America's specialized capabilities, increase dependence on foreign supply chains, and diminish the nation's strategic position in defense and energy domains.

16. Disruptions to the University of Michigan's research will also have negative effects in the State of Michigan. Nearly 56,000 people are directly employed by the University of Michigan. The University works with and supports thousands of businesses, including many small businesses, to help solve regional challenges through joint research and innovation. The

University of Michigan's research also fuels spending in the regional economy, including by driving discoveries that launch new ventures, attract private investment, and make a positive social impact. A massive reduction in the University of Michigan's research budget would immediately and seriously jeopardize these contributions to the local region.

17. Finally, slowdowns or halts in research by the University of Michigan and other American universities will allow competitor nations that are maintaining their investments in research to surpass the United States on this front, threatening both our Nation's national security and its economic dominance. Our nuclear research program, which advances critical fission and fusion technologies against growing competition from China and Russia, would lose momentum, endangering American energy independence. The MUSIC Center's work developing domestic battery technologies would stall, increasing dependence on foreign supply chains at a time when China is rapidly expanding its energy storage capabilities. The PRISMS Center's development of advanced magnesium alloys for defense applications would be undermined, compromising national security interests. Our high-precision Arctic modeling research would falter precisely when China and Russia are expanding their military and economic presence in this strategically vital region. Without sustained support for these specific research initiatives, the United States risks surrendering technological leadership in energy security, advanced materials, and defense capabilities to foreign competitors who continue to strategically invest in these critical domains.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on April 13, 2025 at Ann Arbor, Michigan.

Arthur Lupia